Testimony

of

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on

H.R. 2693

Marine Mammal Protection Act Amendments of 2003

Subcommittee on Fisheries Conservation, Wildlife, and Oceans

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Mr. Chairman and distinguished members of the Committee, I am Peter Worcester, a Research Oceanographer at the Scripps Institution of Oceanography of the University of California, San Diego. I very much appreciate the opportunity to testify before the Committee on my views on the Marine Mammal Protection Act (MMPA) reauthorization as it relates to ocean science.

Last year I testified before the Subcommittee on H. R. 4781, the Marine Mammal Protection Act Amendments of 2002. In my testimony I discussed the impact of the MMPA on oceanographic research using acoustic methods and suggested amendments to the act intended both to facilitate the constructive use of sound in the sea and to improve regulatory efforts by focusing them on activities that cause biologically significant disruption of marine mammal behaviors critical to survival and reproduction, i.e., on adverse impacts.

Since that time others in the oceanographic community, including Scripps Institution of Oceanography, Woods Hole Oceanographic Institution, Lamont-Doherty Earth Observatory of Columbia University, and the Consortium for Oceanographic Research and Education (CORE) have expressed concerns similar to mine in testimony to Congress. The recommendations made in their statements closely parallel those that I made last year.

The revised definition of harassment and the amendments concerning the incidental taking of marine mammals contained in H. R. 2693 are largely in accord with the recommendations that I and others in the oceanographic community have made, as will be discussed in detail below. If enacted, I believe that they will both facilitate the constructive use of sound in the sea and improve regulatory efforts by focusing them on activities that have biologically significant impacts on marine mammals.

I therefore strongly support H.R. 2693.

Sound in the Sea

Any discussion of the use of sound in the sea must start from one basic fact:

The ocean is largely transparent to sound, but opaque to light and radio waves.

Light travels only a few hundred meters in the ocean before it is absorbed. Sound can travel long distances and with great speed underwater. Marine mammals — whales, dolphins, seals — therefore rely on sound to sense their surroundings, to communicate, and to navigate. Similarly, oceanographers, fishermen, and submariners — in short, all who work in the ocean — rely on sound to sense their surroundings, to communicate, and to navigate. Fishermen, for example, use acoustic fish finders to locate schools of fish. Oceanographers use sound in the sea for a wide variety of purposes, including assessing fish stocks, measuring ocean bathymetry, communicating underwater, transmitting data from subsea instruments to the surface, navigating underwater, profiling ocean currents, and measuring large-scale ocean temperature variability. The U.S. Navy uses sound for many of these same purposes, as well as to detect and track submarines and to locate mines.

Sound in the sea is not just noise. It is used for a wide variety of valuable and important purposes.

With all of that said, what is the problem? The problem is that the current regulatory procedures do not adequately differentiate between activities that cause minor changes in marine mammal behavior having no adverse impact and activities that cause significant disruption of behaviors critical to survival and reproduction. Further, the current regulatory procedures under the MMPA are complex and fraught with delays, costly in both time and money, and uncertain in their outcome. The current regulatory structure makes obtaining the necessary authorizations for using sound in the sea so arduous that it is having a chilling effect on a wide variety of important and valuable uses of sound in the sea, as well as on the research needed to improve our understanding of the impacts of underwater sound on marine life.

A project in which I am involved, called the North Pacific Acoustic Laboratory, provides an example of the current regulatory process. As one component of this project we sought the authorizations needed to operate a low-frequency sound source off the north shore of Kauai. The source had previously been operated for two years as part of the Acoustic Thermometry of Ocean Climate (ATOC) project, which included an extensive marine mammal research program to determine the effects, if any, on marine mammals. The short summary of that research is that subtle effects were detected. Large whales could clearly hear the source, but none of the marine mammal experts involved with the program felt that the observed effects were biologically significant.

We started the process of seeking the required authorizations in the spring of 1999. We finally completed the process and were able to resume transmissions in late January of 2002 (Fig. 1). It took nearly three years and cost in excess of half a million dollars to get the required permits!

I believe — hope? — that this is an extreme example. Nonetheless, I believe that it is clear that the regulatory burden in this case bore little relation to the potential environmental impacts of the project.

Our understanding of the effects of underwater sound on marine mammals and the impact of the existing regulatory structure on oceanographic research has been discussed in three recent National Research Council reports:

National Research Council (NRC). 1994. Low-Frequency Sound and Marine Mammals: Current Knowledge and Research Needs. National Academy Press, Washington, D.C.

National Research Council (NRC). 2000. Marine Mammals and Low-Frequency Sound: Progress Since 1994. National Academy Press, Washington, D.C.

National Research Council (NRC). 2003. Ocean Noise and Marine Mammals. National Academy Press, Washington, D.C.

Figure 1. Peter Worcester, North Pacific Acoustic Laboratory (NPAL) Principal Investigator, with the environmental documentation prepared in the course of obtaining the authorizations needed to operate a low-frequency sound source off the north shore of Kauai to do a second phase of research on the feasibility and value of large-scale acoustic thermometry. Obtaining the required authorizations took nearly three years and cost in excess of half a million dollars.

These reports provide an important service in considering how the MMPA could be modified “for facilitating

valuable research while maintaining all necessary protection for marine mammals" (NRC, 1994). The suggestions made in these reports also provide useful guidance on how the MMPA could be modified to facilitate other valuable uses of sound in the sea, while maintaining protections for marine mammals.

Definition of Level B Harassment

The 1994 amendments to the MMPA included a definition of harassment as "any act of pursuit, torment, or annoyance which:

Level A—has the potential to injure a marine mammal or marine mammal stock in the wild; or

Level B—has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."

Unfortunately this definition of harassment is somewhat ambiguous and has at times been interpreted to mean that any detectable change in behavior constitutes harassment. NRC (1994) notes that as "researchers develop more sophisticated methods for measuring the behavior and physiology of marine mammals in the field (e.g., via telemetry), it is likely that detectable reactions, however minor and brief, will be documented at lower and lower received levels of human-made sound." NRC (2000) concludes that it "does not make sense to regulate minor changes in behavior having no adverse impact; rather, regulations must focus on significant disruption of behaviors critical to survival and reproduction." NRC (2000) suggests that Level B harassment be redefined as follows:

"Level B—has the potential to disturb a marine mammal or marine mammal stock in the wild by causing meaningful disruption of biologically significant activities, including, but not limited to, migration, breeding, care of young, predator avoidance or defense, and feeding."

NRC (2003) expands on, rather than replaces, the recommendations contained in the previous reports. All three NRC committees are therefore in agreement that the definition of Level B harassment should be modified to focus on the biologically significant disruption of behaviors critical to survival and reproduction, i.e., on adverse impacts rather than simply on any detectable change in behavior.

The revised definition of Level B incidental harassment proposed in H. R. 2693 is:

"… any act that—

(ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing biologically significant disruption of activities, including, but not limited to, migration, breeding, care of young, predator avoidance, defense, or feeding…"

This definition is fully consistent with that recommended by the NRC. I therefore strongly support the proposed change.

Incidental Takings — "Small Numbers"

Another key recommendation made in NRC (2000) is to remove the term "small numbers" from MMPA provisions that deal with the authorization of incidental takings. Under current law, requests for an incidental taking or harassment authorization apply to "small numbers" of marine mammals of a species or stock of which the Secretary of Commerce must find will be negligibly impacted by the authorized activity.

Until now, federal managers essentially have interpreted this as a single requirement in the authorization process for incidental takes or harassment of marine mammals. However, recent court decisions have called that interpretation into question and if such a change is not made, it is conceivable there would be two distinct and separate tests for determining takes – small numbers first, and if that test were met, negligible impact from the take of small numbers. The NRC-suggested change would prevent the denial of research permits that might insignificantly harass large numbers of animals and would leave the 'negligible impact' test intact. The goal is to focus our efforts to protect marine mammals on avoiding adverse impacts.

H.R. 2693's proposed removal of language concerning "small numbers" responds to concerns raised by the NRC. I therefore strongly support the proposed change.

Incidental Takings — “Specified Geographical Region”

Under current law, requests for an incidental taking or harassment authorization apply to marine mammals in a “specified geographical region.” The Secretary of Commerce must find marine mammals in a specified geographical region will be negligibly impacted by the authorized activity.

As was the case for “small numbers,” it is conceivable there could be two distinct and separate tests for determining takes – specified geographical region first, and if that test were met, negligible impact. The suggested change would prevent the denial of research permits that might insignificantly harass animals in more than one geographical region and would leave the ‘negligible impact’ test intact. The goal once again is focus our efforts to protect marine mammals on avoiding adverse impacts.

I therefore strongly support H.R. 2693’s proposed removal of “specified geographical region” from the MMPA provisions that deal with the authorization of incidental takings.

Establishing Timely and Less Burdensome Permitting and Regulatory Guidance

The complex and lengthy permitting process under the MMPA has become a major impediment to conducting ocean research, hindering even the research needed to understand better the effect of human-generated sound on marine mammals. This problem has been exacerbated in recent months by legal decisions that could require extensive analyses under the National Environmental Policy Act (NEPA) for any research that may affect marine mammals, even in situations where there is widespread agreement among federal managers and scientists that the research activity has no potential to cause harm. As in the example given above, scientists now face lengthy delays and significant additional expense that threaten their ability to conduct research. In addition, the situation is placing new burdens on the already stretched resources of the National Marine Fisheries Service. The ocean science community is urgently in need of a timely and predictable permitting or authorization process that is not unnecessarily burdensome and provides them with assurances that research will proceed in compliance with all applicable laws, when the permit is issued.

One option may be to broaden the relatively streamlined Scientific Research Permit procedure for research on or directly benefiting marine mammals under section 104 of the MMPA. This procedure is currently available only for marine mammal research, and any other scientific research affecting marine mammals falls under the Incidental Harassment Authorization (IHA) procedure or the lengthy rule-making procedure leading to a Letter of Authorization (LOA). These procedures are time consuming and burdensome at best, and the NRC (1994) has recommended that the definition of research for which Scientific Research Permits can be issued be broadened to include a wider range of research activities.

Although such a change would be an important step toward a more predictable process for ocean research, the existing procedure for obtaining scientific research permits still is enormously time-consuming and expensive for individual researchers. Today’s experience is that the costs of permitting and associated legal fees can become as expensive as the research investment itself, leading inevitably to less ocean research and a slowdown in scientific advancement and the benefits that come from it. In addition, the chilling effect of this overly-burdensome process is discouraging new researchers from pursuing marine science, potentially weakening our human resource capabilities in an area that has great potential for new discoveries and large information deficits. I would ask that the Committee look at ways to further simplify and streamline the process and address the concern of the NRC (1994) that "the lengthy and unpredictable duration of this process can create serious difficulties for research."

A closely related issue is that oceanographers and other marine operators routinely use underwater sound for a wide variety of important purposes. However, the MMPA does not provide guidance to govern its application to instrumentation that is in widespread and on-going use, nor does it include a mechanism for allowing for such on-going uses other than through exemptions that must be applied for on a case-by-case basis. I recommended last year either that the National Marine Fisheries Service clarify its position on the use of a wide variety of routinely used sound sources or that the act be modified to provide for the issuance of general authorizations allowing for the use of instrumentation that has the potential for taking by harassment in situations in which the taking will be unintentional and will have a negligible impact on the affected species and stocks. NMFS should be tasked with issuing regulations providing general authorizations for uses of sound that meet appropriate criteria. Such regulations could include provisions excluding critical habitat from the general authorization, if appropriate, for example.

H.R. 2693’s proposed provision for a general authorization responds to these concerns. I therefore strongly

support the proposed change.

Scientific Research on Marine Mammals and Sound

While the MMPA changes discussed above are important, they are not sufficient in and of themselves to address the issues now facing the ocean science community with respect to marine mammals. In its reports, the NRC makes it clear that the current understanding of the effects of sound in the ocean on the behavior and health of marine mammal needs to be improved. Different sound frequencies and intensities have different effects on various species, and those effects change with location in the water column and characteristics of the sea floor. It is clear that increasing our scientific understanding would clarify and narrow the need to obtain permits and authorizations under the MMPA, as well as making it easier for researchers to include effective mitigation measures in their experimental plans. A robust marine mammal research program is absolutely essential to protecting marine mammals and conducting other essential research in our oceans.

Funding and scientific leadership in this area to date has come from the United States Navy. Over the years, the Navy has supported the efforts of pioneers like Sam Ridgway and Ken Norris to expand the boundaries of our knowledge about these unique animals. Today, the Office of Naval Research maintains a substantial research program on underwater sound and marine mammals.

I believe that an enhanced research program on the effects of underwater sound on marine mammals is needed. It is important that this program be independent and peer-reviewed. It should be broadly based, with participation from funding agencies in addition to the Office of Naval Research, including the National Science Foundation, the National Oceanic and Atmospheric Administration (NOAA), and the Minerals Management Service. Support from private industry and non-governmental organizations for research managed in such a manner should be encouraged. The National Oceanographic Partnership Program offers a potential mechanism to bring these entities together in a process that provides both needed coordination and scientific independence. As you undertake the reauthorization process for the MMPA, you should consider authorization of such a program.

Conclusion

Mr. Chairman and members of the Committee, I sincerely appreciate your attention to this complex and emotional issue. Both marine mammals and people use sound in the sea for a wide variety of important purposes. I believe that the H.R. 2693 responds in a meaningful way to the suggestions provided above. If enacted, it will facilitate the constructive use of sound in the sea, focus regulatory efforts on activities that have biologically significant impacts on marine mammals, and make it easier to do the research needed to improve our understanding of the impacts of underwater sound on marine life, while continuing to protect marine mammals.

Thank you, and I look forward to your questions.

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